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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,452	11/28/2001	Praveen K. Saxena	270.60USWO	2097

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EXAMINER

PARA, ANNETTE H

ART UNIT	PAPER NUMBER
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1661

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/937,452	SAXENA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Annette H. Para	1661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7-18, 40 and 42-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-18, 40 and 42-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 9, 2004 has been entered.

### **Status of the application**

As requested in the amendment from applicants dated February 9, 2004, which was in reply to the Office action dated November 5, 2003, claims 2, 4, 7, 9, 11, 12, 43, 45, 46 previously presented, claims 3, 8, 10, 13, 14, 15, 16, 17, 18, 40, 42 original, claims 1, 44, 47, 48 have been amended, claims 5, 6, 19-39, 41 cancelled, and new claim 49 added.

### **Claim Rejection - 35 U.S.C. 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 7-18 and 40, 42, 43, 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 44, 49 it is unclear what applicants meant by "basal" medium. This item is not defined in the specification or claims.

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**Claim Rejections - 35 USC § 102/103**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C.103(c) and potential 35 U.S.C.102 (e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 47 remain rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Cellarova et al.as previously stated (paper 9, page 3).

Applicants' arguments filed on June 16, 2003 have been fully considered but they are not persuasive. Applicants argue that Cellarova et al. are not teaching adding any additives to the basal medium, as well they are not teaching a plant with elevated additives of interest. Callarova et al. disclose a plant grown in medium comprising additive such as Ca and Zn. This plant grown in medium comprising these additive will contain a more elevated level of these nutrients than if grown on a basal medium lacking these elements. As a plant grown in soil contain more microelement than a plant grown in distilled

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water, for example. Applicants also argue that Cellarova teaches away from the method of the present invention because cytokinin is present in the initiation medium as well as in the culture medium. The method or process used to obtain the product does not matter if Cellarova plant is identical to the plant of claim 47. Cellarova teach a plant grown in a medium comprising additive such as Ca and Zn. Applicant argue that the step of adding the additive of interest give a plant which contains more additive than a plant grown in a basal medium. Basal culture media may contain different concentration of additive. For example a plant grown in Murashige and Skoog medium will contain more Ca than a plant grown in a Gamborg et al. medium, yet, Murashige and Skoog medium as well as Gamborg et al. medium are both basal medium. Note that in the absence of any definition for "basal", water could be considered a basal medium.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-18, 40, 42-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stojakowska et al. in view of Murthy et al., Cellavora et al., and Dodds et al.

Stojakowska et al. disclose a method for the in vitro propagation of a phytopharmaceutical plant comprising culturing a sterile explant of said plant on an induction medium comprising 6-benzyladenine and transferring said regenerated tissue to a basal medium and culturing to form plantlets, transferring said plantlets into liquid MS medium comprising microelement such as Fe, Cu, Mn, Zn, etc. Stojakowska et al. do not disclose the use of thidiazuron as a plant growth regulator and do not disclose using this method of propagation with St John's wort. Murthy et al. disclose a method of in vitro propagation on an induction medium comprising plant growth regulator consisting of Thidiazuron (entire document). Murthy et al. also teach the accumulation of mineral ions due to thidiazuron (page 273, column 1, TDZ and stress). Cellarova et al. teach in vitro cultures of *Hypericum perforatum*, which are very effective (page 268). Cellarova et al. describe *Hypericum perforatum* as being a highly regenerative plant species in vitro. Cellarova et al. do not teach a medium comprising of thidiazuron and a medium which lack a plant growth regulator having cytokinin activity. Dodds et al. teach that cytokinin inhibit rooting (page 46). It would have been obvious to modify the method of Stojakowska et al. by including thidiazuron as a plant growth regulator as taught by Murthy et al. because it helps in the accumulation of micronutrient in plants and to suppress cytokinin from the root regeneration medium to initiate the root induction and development as taught by Dodds, and to apply this method to *Hypericum perforatum*. One would have been motivated to do so, given the importance of *Hypericum* as an important source of pharmaceuticals. It would have been obvious to add Thidiazuron to the growth medium knowing that plants accumulate micronutrient when grown in medium rich in these elements. Reasonable expectation of success would have been expected knowing that *Hypericum* is a highly regenerative plant. Therefore the skilled artisan would have expected that adding these ingredients would have increased the regeneration pattern of *Hypericum*. Thus, the invention as a whole was clearly *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

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Applicants' arguments filed on February 9, 2003 have been fully considered but they are not persuasive. Applicants argue that there is no disclosure in Stojakowska et al. of supplementing the basal medium. A basal medium could be water to which is added some essential components such as Fe, Cu, Mn, Zn, etc. These components will be absorbed by the plant, which grow in it. Applicants also argue that Murthy and Cellarova do not teach the subculturing in a medium lacking a plant regulator having cytokinin activity. It is well known in the art as taught by Dodds et al. that cytokinin inhibits rooting, it would have been obvious to modify the method taught by Murphy or Cellarova to initiate the root development in cytokinin free medium

#### Conclusion


Claims 1-4, 7-18 and 40, 42-49 are rejected.

#### Future Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Annette H. Para whose telephone number is (571) 272-0982. The Examiner can normally be reached Monday through Thursday from 5:30 am to 4:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Bruce Campell, can be reached on (571) 272-0994. The fax numbers for the group is (703) 872-9306. The Technology Center phone number is (571) 272-1600. Any inquiry of a general nature or relating to the status of this application should be directed to the Matrix Customer Service Center whose telephone number is (703) 872-9305.

A.H.P

  
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